

FAQ

Q Are there any steps I can take to avoid dirt building up on and in my PC in the first place?

A While it is a good idea to give your PC a thorough clean now and then, there are many steps you can take to stop it becoming too dirty. Dust quickly builds up on monitors, but cleaning occasionally with an anti-static wipe will maintain an anti-static film to stop attracting dust. Dusting your keyboard or using a miniature vacuum cleaner around the keys will stop too much dirt falling in between the keys where it is hard to remove.

You should clean the outside of your PC with plastic safe wipes. Preventing dust entering the PC is harder, but you can buy foam air filters for case fans from www.maplin.co.uk.

Unfortunately, these air filters are available only for 80mm fans. If you have 120mm fans, there is information on making your own air filter at www.computerairfilter.com and www.purapc.com.

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Spring-clean your PC

Is your PC festering with dirt? Chris Finnamore explains how to wipe away the grime and improve your cooling in the process

Now the good weather is finally here, you may be giving your house a good clean, mowing the lawn and trimming the hedges. But what about your PC? Chances are if it's more than a year old, it's looking a bit shabby. A damp cloth on the outside may be enough to spruce it up, but you should delve into your PC's insides, too.

Case fans drag dust into your case, and you may be surprised at how dirty your PC has become. While dirt you can't see may not seem like a problem, it is. Dust builds up and clogs your fans, so they're less efficient at cooling. Dust also acts as an insulator, so your PC will run hotter and may crash sporadically. In this month's *PC Builder*, we're encouraging you to grab a pair of Marigolds and delve into your case to clean it out. By the time you've finished, your PC will be sparkling and, more importantly, running cooler and more efficiently.

We're not going to leave it there, though. Cleaning your PC gives you a good opportunity to tidy it up. First, we'll show you how to tidy the cables. This doesn't just make the inside more pleasant to look at, it also keeps them out of the way and lets air circulate better, keeping your computer cooler. We'll also show you how to remove your processor's fan, clean it up and reapply thermal paste, so your cooling is as efficient as possible.

Finally, we'll cover how to clean your keyboard and monitor. Neither sound like priorities, but a dirty keyboard is unpleasant to type on and can be a breeding ground for bacteria. A dirty, dusty screen looks dull and faded compared to a carefully cleaned one.

WHAT YOU NEED

Follow our simple instructions for a sparkling computer. Before you start, you'll need the following products from www.maplin.co.uk. All prices include VAT.

SHOPPING LIST	
1 can air duster	£10
1 can computer care foam cleaner	£2.99
1 pot anti-static screen-cleaning wipes	£2.99
1 pot plastic safe wipes	£2.99
1 packet cable ties	£1.99
1 tube or packet thermal paste	£2.49
1 bottle isopropyl alcohol	£5.99

You'll also need lint-free cloth, available from www.techstore.co.uk for £6.45 including VAT.

1 Having a monitor covered in dust and assorted dirt is distracting when you're working and it makes a mess of images and video, but be careful when cleaning your display as harsh cleaning products can damage the protective coating on CRT and LCD screens.

You'll need foam cleaner to clean the monitor's surround and anti-static wipes to clean the screen's surface. To avoid getting the cleaner on the surface, spray the foam on a dry cloth rather than directly on the screen surround. Rub the cloth around the screen surround to make sure the plastic is completely covered in cleaner. Leave it for 15 minutes to work into the dirt. Use a new cloth to remove the cleaner; most of the dirt

should come off easily, but you may have to scrub at some ingrained patches. Reapply as necessary until the dirt has been removed.

Clean the screen with anti-static wipes, discarding each wipe when it becomes too dirty. To avoid leaving any smear marks, wipe the cloth vertically up and down the monitor. These wipes leave behind an anti-static film, which helps prevent dust accumulating.

2 Cleaning the surface of your keyboard is quite easy; cleaning the muck from under the keys is the hard part. You need foam cleaner, a dry cloth, plastic safe wipes and the air duster. Do not spray the foam cleaner directly on the keys, as this may interfere with the switches underneath. Spray the foam on a dry cloth and apply it on the keyboard's flat surfaces. Again, leave for 15 minutes or so, then remove with the dry cloth.

It isn't possible to clean the sides of the keys or underneath them without removing them from the keyboard. Using a flat-bladed screwdriver, gently lever off each key. Some large keys may have extra springs or bits of metal attached to them, so don't lose these.

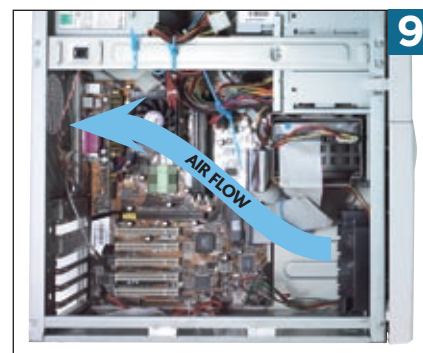
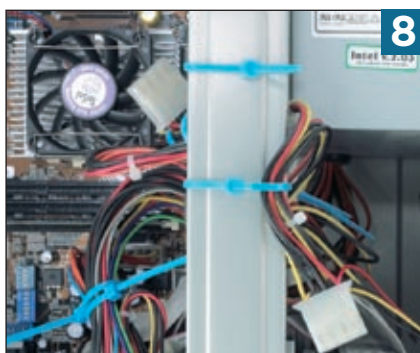
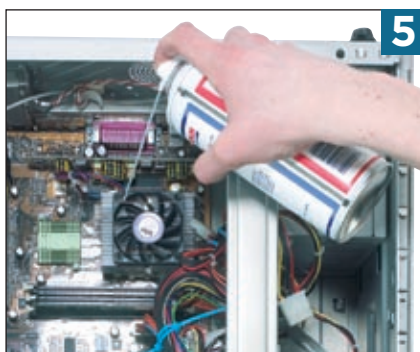
3 Use the air duster to blow the dust and dirt out of the upturned keyboard. You may want to use the plastic safe wipes to get rid of any dried-on dirt. Soak the keys for around 15 minutes in a bowl with some washing-up liquid. This should get rid of most of the muck, but rub a cloth over each one to remove any residue. Any moisture left in the keys could damage the keyboard, so leave the keys to dry before pressing each one back into position on the keyboard.

4 Cleaning the outside of the case is quite simple, but be careful. Don't spray the foam on to the front or rear of your PC, as it could get into your drives, power supply and ports. Spray the foam on a cloth and apply it to the front of the case, including the optical and floppy drives. If there are any indentations around the power button or power and hard disk LEDs, you may need a cotton bud to remove dirt. The rear of the case will be mainly metal, but rub a foam-covered cloth over the parts of the case that wrap around the rear of your PC. Use a separate cloth to wipe the case clean after you've left the foam for 15 minutes.

The sides should be more straightforward: spray the foam cleaner on to each side of the case and leave it for



▲ Fans draw dust into your case, and leaving it to accumulate can lead to cooling problems



15 minutes. Use a dry cloth to wipe off the cleaner and the dirt should come away easily. Reapply foam as necessary.

5 Cleaning the inside of your PC is the biggest challenge, as dust can build up in hidden areas. Take off the side of your PC and remove the expansion cards from the motherboard. If the PC is particularly dirty, you may have to remove the motherboard, hard disk and optical drives, too.

Vacuuming the motherboard is not a good idea, as there are many sensitive components protruding from the circuit board. Starting at the top, spray the air duster down over the motherboard, so the dust collects in the base of the case, or into a bin if you've removed the motherboard from the case.

Use a vacuum cleaner to remove the worst of the dust from the bottom of the case and from the processor's heatsink, fan and case fans. Finally, use the plastic safe wipes to wipe any dust from the cables inside your case.

6 The dust caked on to your expansion cards can be removed easily with the air duster. Make sure you have removed all the dust wedged underneath components such as capacitors, and check that the heatsink and fan on your graphics card are free from dust. Also, blow the air duster into your expansion cards' ports and sockets.

7 While removing the dust from your PC's components will reduce the insulating effect and help with cooling, there are other improvements you can make to help prevent overheating. There is a thin layer of thermal grease between the processor and the heatsink, which smoothes over any imperfections in the two metal surfaces and makes sure heat from your processor is dissipated efficiently. Eventually, thermal grease dries out and reduces the efficiency of your cooling, so it needs replacing from time to time.

Remove the heatsink from the processor as per the manufacturer's instructions. Remove the existing thermal grease using a lint-free cloth dabbed with isopropyl alcohol.

Apply a small blob of thermal grease to the top of the processor and use a piece of card to spread it evenly over the surface, so there are no visible gaps, and reattach the heatsink.

8 There are a lot of power and data cables inside your PC and while some manufacturers are careful to tidy them out of the way, many computers are a mess inside. This makes them harder to work on. A mass of cables can also impede the airflow through your case.

Fortunately, you can solve this problem using cable ties. Find any cables that are not in use; there are normally a lot of unused power cables in a PC. Fold them up and secure them

with a cable tie tied to the chassis to keep them out of the way. Now find any cables that run between roughly the same points and bunch them together before tying them up and to the chassis. Finally, find any cables that have excess amounts of slack; you may find your flat IDE ribbon cables are too long. Put a kink in the cable and tie it up.

9 Even if your case has plenty of fans and is free from obstructive cables, you may still not be getting the best possible cooling if your fans are not oriented correctly. Case fans should draw air over your PC's components and out of the case. As the power supply already blows air out of the back of the case, your rear case fan should be oriented so it blows air in the same direction, taking heat out of the rear of your PC and drawing cool air in through the front.

If you have a front-mounted fan, make sure it is pulling cool air into the case and blowing it over your motherboard. If any fans are mounted incorrectly, simply undo the mounting screws and turn the fan around before reattaching.

Next Month

WINDOWS XP MEDIA CENTER EDITION
We show you how to build your own compact Media Center PC